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(54) Title: A RETRO-INVERSO GONADOTROPIN-RELEASING HORMONE PEPTIDE AND VACCINE COMPOSITION

(57) Abstract: The invention describes a retro-inverso (RI) gonadotropin-releasing hormone (GnRH) peptide which is capable of eliciting an immune response directed against GnRH, the peptide having the amino acid sequence GPRLGYSWHX, wherein the amino acids are D-amino acids and X is any amino acid. More particularly, X is E, Q, P or G, and even more particularly, X is E or Q. Thus, a preferred amino acid sequence for the peptide is GPRLGYSWHE. The peptide may optionally include one or more additional D-amino acids at its N- or C-terminus, for example a cysteine residue or a series of linker amino acids, such as a plurality of glycine amino acid residues. Thus, a second preferred amino acid sequence for the peptide is GPRLGYSWHEC, which includes a cysteine residue at the C-terminus for conjugation purposes. The invention also describes a vaccine composition for use in controlling fertility, heat, contraception and/or treating sex hormone-related diseases, and a method for controlling and/or treating fertility and sex hormone-related diseases.